

United States
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Agriculture

Forest Service

Northeastern Area

Field Note 84-4

FOREST PEST MANAGEMENT

DETECTION SURVEY, HERBERT
HOOVER NATIONAL HISTORIC
SITE, WEST BRANCH, IOWA 1984

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INTRODUCTION

The Herbert Hoover National Historic Site at West Branch, Iowa is administered by the National Park Service, USDI. There are nearly 76 acres of native prairie and 100 acres of lawns and ornamental trees along with several historic and period buildings, the gravesite, and a library located on the Site. The library is administered by the General Services Administration, National Archives and Record Service.

ENVIRONMENTAL SETTING

Over a quarter million people a year visit the Site which is located east of Iowa City off Interstate Highway 80. Parking areas, picnic grounds, three major paved roadways, and several walkways are the constructed facilities benefiting visitors. Most of the 20 or so buildings at the Site are of historic value. There is also a visitor center post office and several farm and recreation buildings.

The west branch of Wapinonoc Creek flows east across the northern end of the Site. Native prairie is maintained by fire and reestablishment of various grasses and forbes species that originally grew in this area. There is a great variety of trees, shrubs, herbs, and other plants throughout the Site. Most of the woody plants are planted, but several trees are naturally seeded and are old for their species. Some are beyond their pathological ages, but are maintained for their historical value. Black walnut, weeping willow, and hickories are the species of choice because President Hoover was partial to them. Silver maple, red oaks, hackberry, black maple, and green ash are the

major native trees. Oriental elms, flowering crabapple, white pine, arborvitae, and spruces are the major exotic species.

PEST CONDITIONS

Rot is the major pest condition in the older hardwood trees. Various wood-rotting fungi invaded tree wounds years ago and now many trees are hollow or contain great amounts of decayed heartwood. Wind storms and poor pruning practices in the past have compounded the problem. Current tree-trimming and tree protection practices should considerably reduce future rot problems.

Bird damage is heavy on some trees. Sapsuckers have a habit of visiting certain trees and pecking rows of holes in the trunk. These holes bleed sap and resins and also admit decay organisms. There is no practical way of preventing this type of damage.

Not many insects were present during the survey, but some evidence of their feeding was found. Woolly coatings of pine bark adelgid (Pineus strobi (Hartig)) were on several large white pine. This insect causes no significant harm to the trees. Several of the young white pine had light attacks by white pine aphid (Cinara strobi (Fitch)). Black areas of a harmless fungus had invaded the honeydew produced by this aphid. Insecticidal soap spray of the trees when aphids are present will reduce damage by these insects.

There appeared to be light damage by a sawfly on several sapling Norway spruces. The trees should be inspected in July for sawfly colonies, and the

insects hand picked if the population level is low, or chemically controlled if population is high enough.

Galls of Cooley spruce gall aphid were found on blue spruce. Populations are light and may be controlled by pruning and then burning green galls that form in June and July. Old galls may be trimmed off to improve tree appearance. Light populations cause no significant harm to the spruce.

Several ash trees were infested with ash flower mites. The swollen flowers remain on the trees during winter where they are more a curiosity than a pest. Mite attack reduces the amount of seed the tree can produce which is an unimportant factor in ornamental trees.

A weeping white birch next to the library will be attacked by bronze birch borer (Agrilus anxius Gory). Its life can be prolonged by watering, fertilizing, and chemical control of the birch leaf miner and bronze birch borer.

One Lombardy poplar is dead and the other heavily infected by Cryptodiaporthe populea (Sacc.) Butin fungus. These trees should be moved because they are a safety hazard and the disease cannot be controlled.

Several white oak trees are infested by Disholcaspis globus Fitch, a bullet gall-forming wasp. The galls persist for several years after the insects leave. They cause insignificant damage.

The several sycamores are subject to attack by anthracnose (Gnomonia platani Edg.). This disease, which causes leaves to turn brown and fall prematurely, depends upon a source of spores and cool weather. Pruning of infected twigs and branches and gathering of leaves will reduce the number of spores. Infected material should be burned. Trees should be fertilized in the spring of the year to help offset weakness caused by loss of leaves.

Most of the hardwood trees are hosts for a variety of cankerworms and other caterpillars. These insect pests may be readily controlled with a single application of Bacillus thuringiensis, a bacterium pathogenic to caterpillars. The liquid culture may be purchased locally under trade names such as Bactospeine, Dipel, or Thuricide. If an outbreak should occur, Forest Pest Management will provide technical assistance in the evaluation and/or control of the problem.

Hackberry trees, a common species, are often attacked by a jumping louse or psyllid insect which forms small galls on the leaves. Heavy infestations can cause leaf fall before the tree is able to store starch reserves. The psyllid can only be controlled with chemical insecticides. A complete fertilizer applied in the spring of the year will help hackberry recover from psyllid attack.

Cytospora kunzei Sacc. canker attacks the stems of spruce trees causing lower branches to die. There is copious⁰ bleeding of resin around the joint of stem and branch when a tree is infected. One tree, newly planted, had

symptoms of this disease. Evergreen fertilizer and watering sometimes reduce symptoms of the disease, but dead branches are not replaced.

Several hackberry trees bore witches' brooms on a number of branches. The cause of this proliferation of twigs at one point is unknown. Mites and mildew are associated and may be the cause. Control is not necessary.

PREVENTION RECOMMENDATIONS

1. Continue to prevent lawnmower and weeder machine damage to trees.
2. Prune out dead branches, diseased branches, and any branch that rubs on another.
3. Review the TLC for trees slide tape before crews begin tree trimming work.
4. Scalp a 3 ft. wide circle around tree holes before planting to remove grass. Some grasses produce chemicals that inhibit tree survival. Grasses also use nutrients and water needed by trees. Cover the scalped area with 4-6 inches of compost from the large pile of leaves.
5. Avoid piling topsoil, sand, gravel, or construction materials within 80 feet of trees. Truck traffic to service these items compact the

soil in which tree roots grow.

6. Feed old Norway spruce with an evergreen fertilizer. The material can be placed on the soil surface in early spring and allowed to wash into the soil.
7. Avoid leaving stubs when branches are pruned. Follow suggestions for pruning found in the TLC for Trees slide tape and accompanying publication, TREE DEFECTS: A photo Guide, USDA Forest Service, Northeastern Forest Experiment Station, General Technical Report NE-82 by Alex L. Shigo.